



Fortifications of the New Zealand Wars

Nigel Prickett

In Memory

Tony Walton [26 November 1952 – 6 November 2008]

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This report is one of the last Department of Conservation archaeological contract projects in which Tony was involved and reflects his interest in historic sites of the New Zealand Wars, and so is a fitting tribute to his career.

Cover: Alexandra Redoubt, near Tuakau, was established by British troops the day after General Cameron crossed the Mangatawhiri River on 12 July 1863 at the start of the Waikato War. The earthwork fortification was located to secure the right flank of the invasion route and to protect military transport to the front on the Waikato River 100 m below. The outstanding preservation is a result of the redoubt now being within an historic reserve and cemetery. See Section 3.10 in the report. *Photo: Nigel Prickett, April 1992.*

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Fortifications of the New Zealand Wars

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Abstract

This report catalogues 505 New Zealand War fortifications, 322 (63.8%) of them European and 183 (36.2%) Māori. Episodes covered are the 1843 Wairau Incident and other 1840s conflicts in the Bay of Islands, Wellington and Whanganui districts, the 1850s Puketapu Feud in Taranaki, the decisive 1860s fighting in North Taranaki, Waikato, the Bay of Plenty and Whanganui / South Taranaki, Te Kooti's 1868–72 struggle in the central and eastern North Island and the 1880–81 Parihaka Campaign.

Fortifications are presented by region as follows: Bay of Islands (13 fortifications); Auckland (41); Waikato (82); Bay of Plenty (56); Central North Island (19); Poverty Bay and East Coast (22); Hawke's Bay and Wairarapa (16); North Taranaki (142); South Taranaki (29); Whanganui (59); Wellington (21); South Island and Chatham Island (5). Except for the Bay of Islands and South Taranaki all regions are further subdivided for ease of access. Of total catalogued sites, 348 (68.9%) are recorded in the N.Z. Archaeological Association Site Record Scheme and 157 (31.1%) were recorded at the time of writing.

The introduction outlines the significance of the works and describes different Māori and Pākehā forms. Conclusions make use of the catalogue to examine changes in form and in the tactical and strategic purpose of fortifications in 40 years of armed struggle. Research needs are outlined. Significant sites and landscapes are identified. Their protection is an urgent task, especially where rapid land-use change is now taking place, as in the Waikato, Taranaki, Bay of Plenty, Whanganui and South Auckland regions where the most significant New Zealand War sites and landscapes are located.

Keywords: New Zealand Wars; colonial war; fortifications; Pākehā; Māori; pā; rifle-pit; redoubt; blockhouse; stockade.

1. Introduction

1.1 The New Zealand Wars

To understand the present we must know the past. War was at the heart of a process of expansion and dispossession that has defined our country for 150 years. In today's renegotiation of the Pākehā-Māori relationship, there is no escaping reference to the New Zealand Wars and their results.

Fighting in the New Zealand Wars took place throughout much of the North Island and in the 1843 Wairau Incident in the South Island. Campaigns and conflict episodes are summarised chronologically in Table 1 (see also Fig. 1).

Table 1. Periods of conflict or campaigns of the New Zealand Wars.

CAMPAIGN OR EPISODE	YEARS	REGION
Wairau Incident	1843	Marlborough
Northern War	1845–46	Bay of Islands
Wellington	1846	Wellington
Whanganui	1847	Whanganui
Puketapu Feud	1850s	North Taranaki
First Taranaki War	1860–61	North Taranaki
Waikato War	1863–64	Waikato
Tauranga Campaign	1864	Tauranga
Second Taranaki War and after	1863–69	North Taranaki
Whanganui and South Taranaki	1864–66	Whanganui, South Taranaki
East Coast	1865–66	Opotiki, Poverty Bay, Hawke's Bay
Titokowaru's War	1868–69	South Taranaki, Whanganui
Te Kooti's War	1868–72	Poverty Bay, Hawke's Bay, Taupo, Te Urewera, Whakatane
Parihaka Campaign	1880–81	Taranaki

These episodes and campaigns outline the fighting and military operations that have left behind a legacy of historic landscapes and fortifications to tell the story of the wars. Just as there is no doubt about the significance of the wars in New Zealand history, so the archaeological sites and landscapes they have left are among our most important historic places.

The earliest fortifications date from the 1840s in Auckland, Wellington, Whanganui, the Bay of Islands and the South Island. Most, however, relate to major campaigns of the 1860s in the Waikato, Taranaki, Whanganui and Bay of Plenty regions. Included in the New Zealand Wars is fighting that took place between Māori groups, in the Northern War, Taranaki's Puketapu Feud, in fighting on the East Coast in the 1860s and in Te Kooti's War that followed. After the fighting, in the 1860s, 1870s and 1880s, fortifications were used to secure Pākehā settlement frontiers on confiscated land.

1.2 The report

This report outlines current knowledge of 505 Pākehā and Māori fortifications of the New Zealand Wars. It is aimed at archaeologists, historians, heritage managers, planners, land-owners, land managers and any others who are interested in this period of New Zealand history and its associated significant historic places. Entries include archaeological data (site record number if available, map reference, location and present condition) and historical information (who built it, when and why, the original form, and any significant later history). Knowing both history and archaeology of a site is necessary when considering its research potential, and significance for conservation, protection and planning purposes.

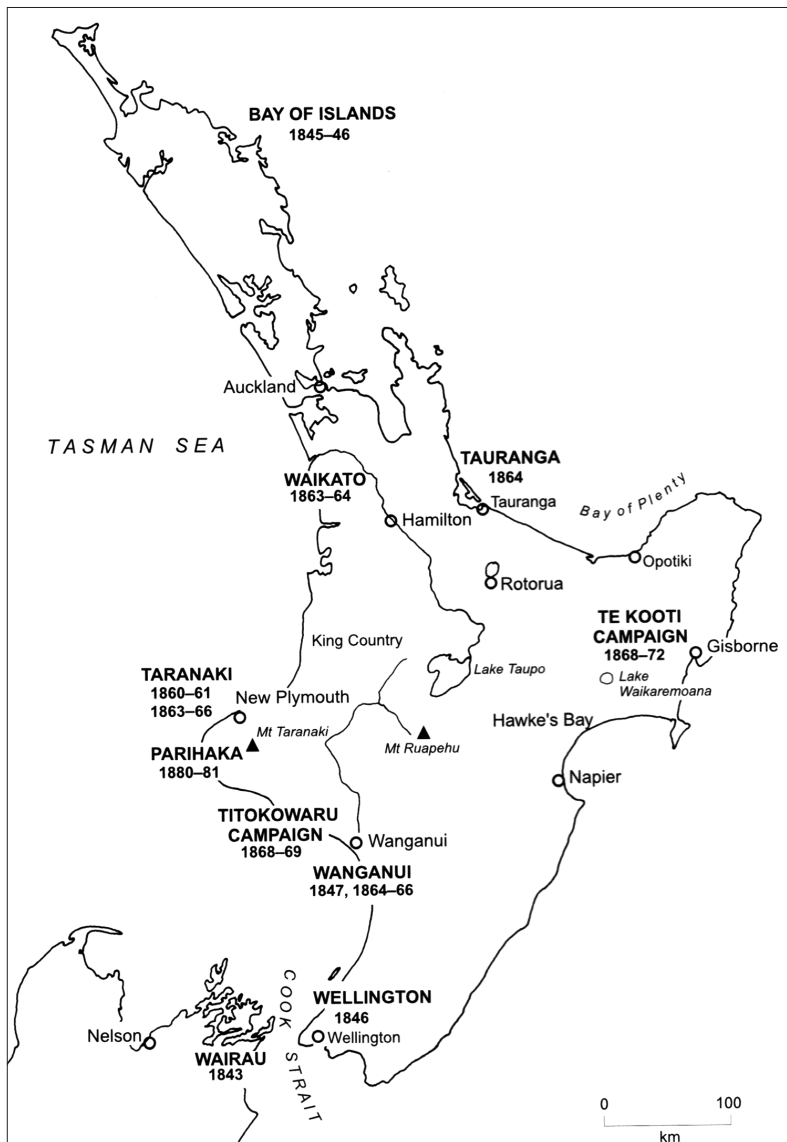


Figure 1. Location map of major campaigns and episodes of the New Zealand Wars.

The report is organised by region (Chapters 2-13). Most chapters are further subdivided according to district or geography for ease of use. Information on the archaeology and history of fortifications varies considerably. Some site descriptions are based on good recent records, others rely on old data, while for others no information is available. Site histories include those with well known, significant circumstances, to places where the barest date or historical reference is available. A few have no known history, although from their form and location they are almost certainly of the period. Every fortification listed here would benefit from more research.

In the Bay of Islands, Wellington and Central North Island, all or nearly all the works date from one campaign. Some Auckland works date from the Northern War (1845-46), but most are from the Waikato War a generation later. In the Waikato, there was fighting over nine months in 1863-64, followed by two decades of stand-off at the fortified frontier of European settlement. Fortifications were used throughout several episodes from 1864 to 1872 in the Bay of Plenty. In Taranaki and Whanganui there was conflict over more than 20 years—from the 1850s to early 1880s in Taranaki and 1847 to 1869 in Whanganui. Throughout the New Zealand Wars, fortifications played an important part in the strategy and tactics of both sides and in nearly all engagements.

Appendix 1 lists all catalogued sites, with site record number (if available) and fortification date and type.

1.3 Strategy and tactics in the New Zealand Wars

Fortifications were used for tactical and strategic purposes. Most Pākehā works were strategic in defending communication lines and holding positions and territory. The success of strategic posts was not just in repelling an attack but in none being made. Notable among tactical Pākehā works were eight redoubts (see **9.44-51**)* put up to protect the long advance by sap (attacking trench) near Waitara in early 1861.

The New Zealand Settlements Act 1863 allowed the confiscation of tribal land from groups deemed to be in rebellion against the Crown, and so encouraged a shift to strategic works. With the aim of the war now being to take the land, Pākehā military objectives and the political agenda were brought into line. Frontier posts in Taranaki and Waikato secured European settlements on confiscated land until the Armed Constabulary was disbanded in 1886.

Māori works also might be strategic or tactical in purpose. The tactical use pā of was important for a fighting force without artillery and still using muskets in the 1860s when the enemy had rifles with vastly greater accuracy and rate of fire. To the end of the 1860s Māori did what they did best in constructing pā for tactical advantage. Notable successes over the British Army took place at Ohaeawai (**2.3**), Puketakauere (**9.52, 9.54**) and Pukehinahina / Gate Pā (**5.11**); colonial forces were beaten in attacks at Te Ngutu o te Manu (**10.23**) and Moturoa (**11.26**). But most European attacks on pā were successful, while many other pā were not put to the test. Only in Titokowaru's campaign was Māori success with fighting pā translated into a significant strategic advantage, until Tauranga Ika (**11.36**) was abandoned without a fight.

Māori strategic options eventually were closed down by the loss of land, an increasing weapons disparity, the loss of fighting men and by the continuing flood of Pākehā settlers into New Zealand. In 1858 European numbers were about the same as Māori; in 1870, after a decade of fighting, five of six New Zealanders were Pākehā. By the early 20th century, 19 of 20 New Zealanders were Pākehā (data from Baker 1966).

1.4 The fortifications

Both sides had long experience in the use of fortifications in war. For centuries Māori had used pā to defend communities and territory. When muskets became available in the early 19th century, pā were shifted from hill-tops to level ground for more effective defensive fire. Defenders moved from the high platforms in traditional pā, which were vulnerable to an enemy with guns, to trenches behind stockades for protection and firing positions. When the British Army brought artillery into the equation, bunkers were dug inside pā where defenders sat out a bombardment then manned the firing trenches as an attack came in.

In this report, Māori fortifications are listed as pā or rifle-pits. All or nearly all pā had rifle-pits or trenches as part of their extended work, either within the pā defences or as associated outlying positions. A small number of recorded rifle-pits were stand-alone positions which were not part of pā defences.

The British Army also had considerable experience of small field works. Colonial or imperial campaigns similar in scale to the New Zealand Wars had been carried out in Europe, North America, Asia and Africa. In New Zealand, the British Army had the particular advantage of fighting an enemy without artillery, so that defensive works would not be battered or breached prior to an assault. When the main period of fighting ended, Pākehā changed from earthwork redoubts to stockades and blockhouses, which took longer to build but could be defended by smaller, more economical garrisons.

* Bolded numbers refer to numbered sections within the text.

1.4.1 Pākehā fortifications

Pākehā works comprised earthwork redoubts, timber stockades and blockhouses, and rare ‘fortified buildings’, saps and ‘earthworks’ other than redoubts, which might defend a position or camp. There was considerable variation in form within these general types.

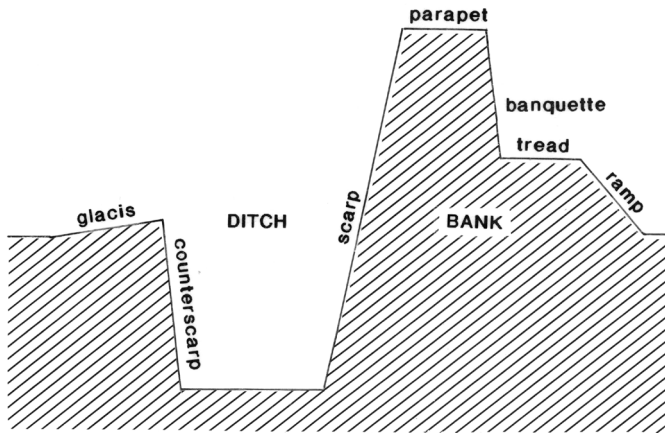


Figure 2. Cross-section of redoubt defences.

Redoubts were defended by ditch and bank earthworks (Fig. 2). They were made by digging a ditch to a depth of c. 6 ft (1.8 m), the excavated soil being thrown up on the inner side to form a bank c. 8 ft (2.4 m) high. This gave a total height from ditch bottom to parapet of 4.2 m. There was often a drawbridge over the ditch to the entrance that was otherwise a point of weakness. Most redoubts were of an overall square or rectangular plan or ‘trace’, but they could take many forms depending on the lie of the land or wishes of the Royal Engineer or officer in charge of construction. Redoubts were the most common Pākehā work and were mostly used in campaign situations

where they could be thrown up quickly, unlike timber works which took days or weeks to build. The 60 m square Waireka Camp (9.90; Fig. 3) near New Plymouth was built in one day under enemy fire.



Figure 3. Waireka Camp (9.90), Taranaki, 1860: a classic redoubt form with bastion defence at two corners covering all four sides. Photo: N. Prickett, 1975.

Square or rectangular works commonly had bastion defence at two or four angles to cover all four sides. Waireka is an example of the classic two-bastion form. Miranda Redoubt (4.10; Fig. 4) on the Hauraki Gulf, is an example of bastions at all four corners each covering one side, a form described in 1869 as the ‘...usual New Zealand redoubt’ (Young 1869: 12). Examples of irregular or complex traces are Kakaramea (10.4; Fig. 104), South Taranaki, and Meremere (4.8; Fig. 31) in the

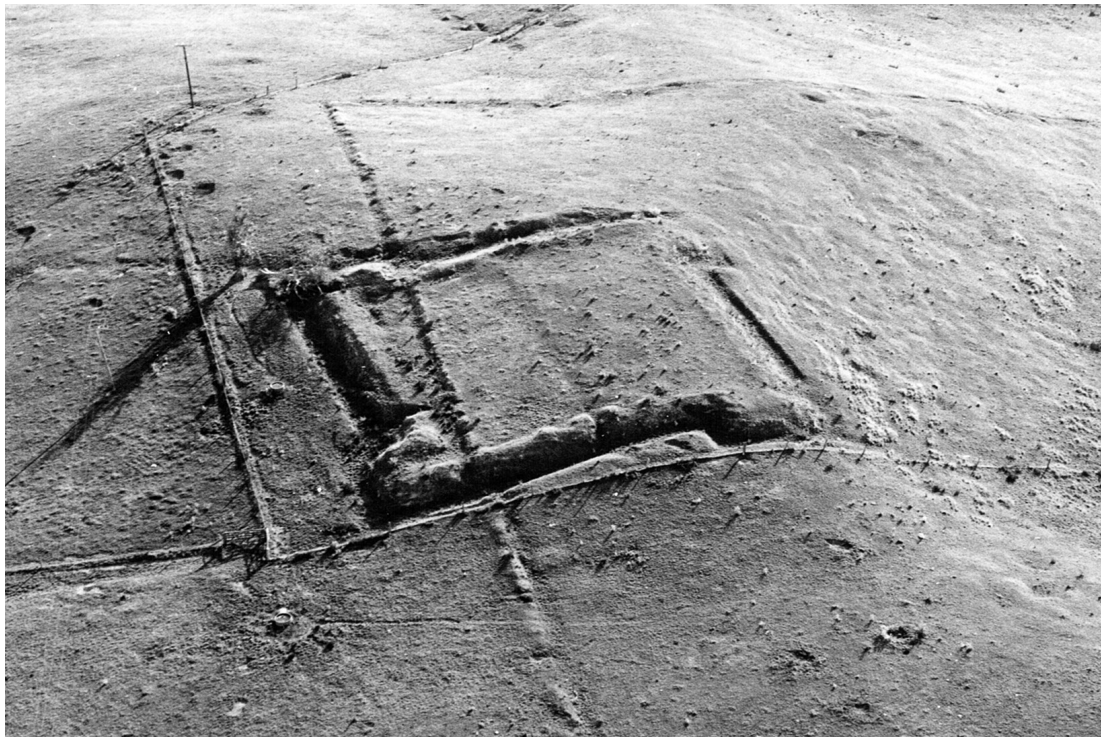


Figure 4. Miranda Redoubt (4.10), 1863, on a hill west of the Firth of Thames: an example of the 'New Zealand redoubt' form commonly used late in the wars, of bastion defence at all corners, each covering one side. Photo: N. Prickett, 1992.

Waikato. Some redoubts follow older engineers' manuals, such as Alexandra Redoubt (4.23: Fig. 36) in Pirongia where each side is covered from two directions as if in consideration of a breach from enemy artillery, and Rotoorangi (4.78: Fig. 44) where sides are angled to the centre and a ravelin earthwork covers the entrance, again after an older European model.

Redoubts were typically built for one or two companies of c. 100 men. Colonel H.J. Warre, commanding officer in Taranaki from 1861 to 1865, sketched the internal arrangements of standard one- and two-company works. The smaller redoubt (Fig. 5) shows a 35 × 28 yard (32 × 25.6 m = 820 m²) interior accommodating 20 bell tents, one each for the commanding officer, orderly room, doctors, hospital, magazine, guard and drivers ('sappers' and 'drivers' were enlisted Royal Engineers), two each for the officers and commissariat and nine 12-man tents for rank and file. The two-company work for 30 tents was 42 × 35 yards (38.4 × 32 m = 1230 m²). Both had 8–10 m² bastions at two angles, which added c. 150 m² to their defended area.

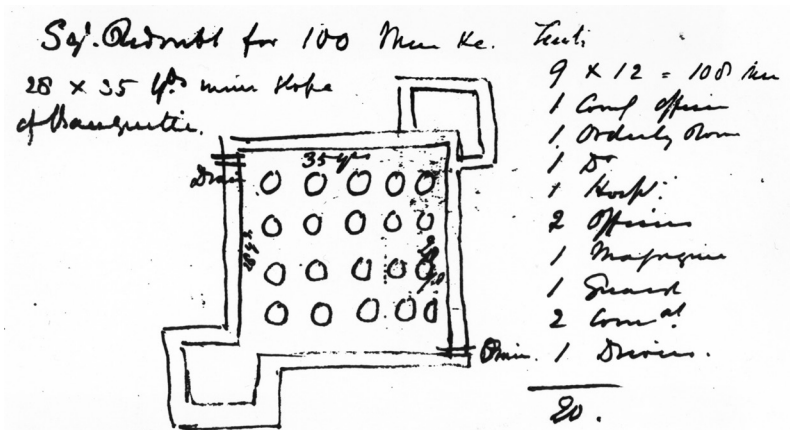
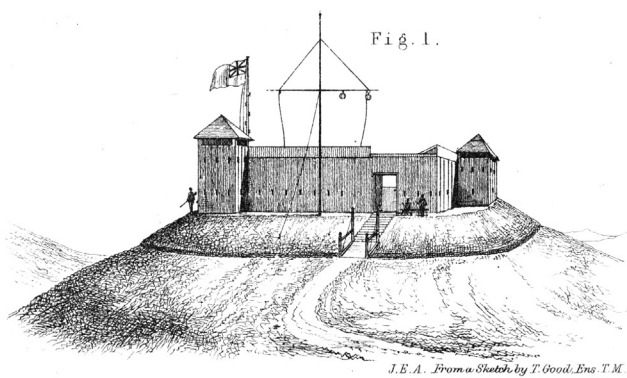


Figure 5. Form and internal arrangement for a 100-man redoubt. Colonel Henry James Warre, 1863, pencil on paper, Sketchbook p. 131, Hocken Collections, Uare Taoka o Hākena, University of Otago, acc 11,326.

New Zealand's largest redoubts were Queen's Redoubt (3.26: Fig. 25) in Pokeno and Camp Waitara (9.26: Fig. 76) in Taranaki. Queen's Redoubt was 100 yards (91 m) square internally (8281 m²), of classic form with two bastions covering all four sides, and accommodated 450 men in huts. Camp Waitara was built in two phases to enclose c. 8500 m², with bastions arranged to defend an unusual trace.

The smallest redoubts were guard posts attached to otherwise unfortified road-building camps in the 1880–81 Parihaka Campaign, such as Werekino (9.124) and Pungarehu (9.118) where sentries were stationed in c. 8 m diameter earthworks on top of small volcanic mounds. Although there was no fighting, the invasion force was nonetheless conducting a military campaign.

Stockades were defended by close-set timbers, 10 ft (3 m) high or more, loopholed for defensive fire. Like redoubts, they had bastions projecting from the work for an enfilading fire along the length of an enemy attack on the stockade wall. Bastions sometimes had more than one floor and level of loopholes, behind the high timber walls. There was often a ditch outside the stockade line and a drawbridge over the ditch to the entrance.



PERSPECTIVE VIEW OF THE OMATA STOCKADE, TARANAKI, N. Z.

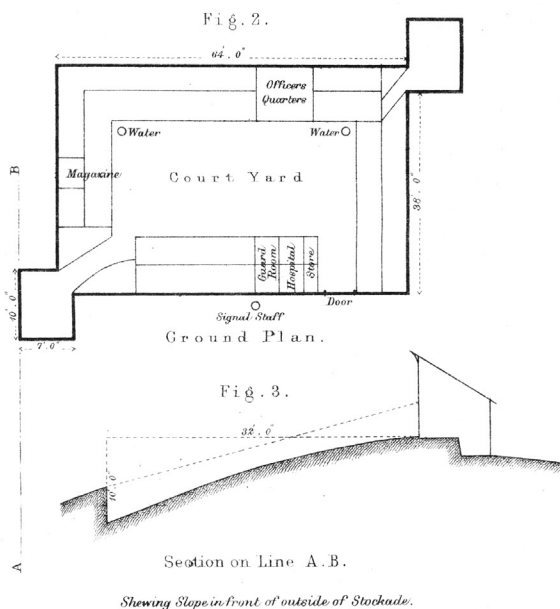
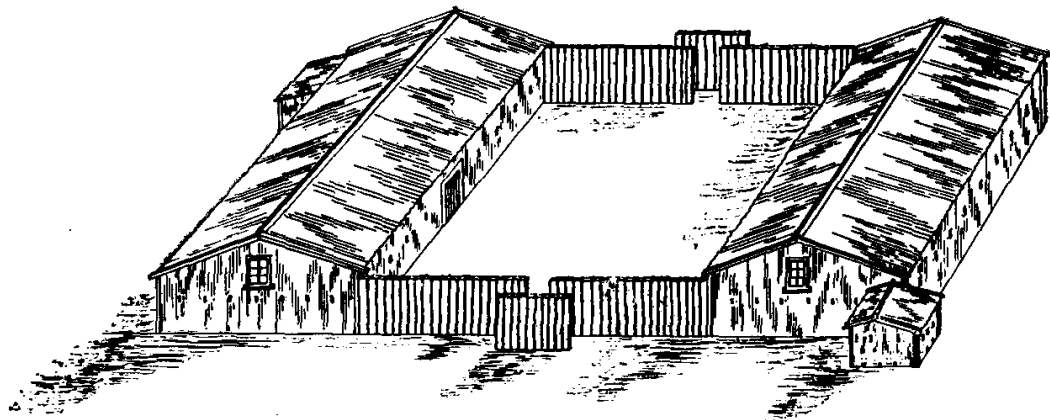


Figure 6. Omata Stockade (9.83), Taranaki. From Alexander 1863.

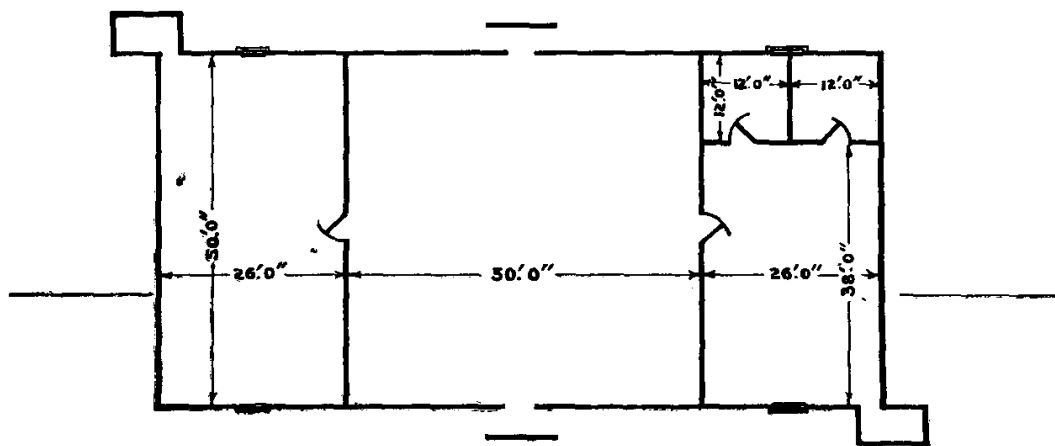
The Omata Stockade (9.83) (Fig. 6), Taranaki, illustrates the stockade form. Two bastions cover all four sides from two rows of loopholes and a third firing position beneath the roof. The walls have a single row of loopholes and there is a defensive ditch and drawbridge outside. Buildings inside are constructed against the stockade wall to maximise the yard space available within a total defended area of only 9.3 × 12.8 m (247 m²), plus the two 3.2 × 2.3 m bastions. Stockades were much smaller than redoubts. In the First Taranaki War, the Omata Stockade housed 54 to 73 local men (Alexander 1863).

Most stockades were of rectangular plan, with bastions at two corners. Early in the wars they were used in the course of fighting, such as Matarikoriko Stockade (9.42; Fig. 80) in Taranaki, which had single-storey roofed accommodation buildings in the bastions and sentry boxes over the other two angles. Matarikoriko was constructed in two weeks, mostly from the trunks of tree-fern, and held 60 men (Carey 1863: 157). In the northern Waikato, Bluff Stockade (3.12; Fig. 23) was 15 × 14 m in plan and had three buildings around a small yard. It was flanked from three corners, except for the side above the scarp to the river. Stockade timbers were 4.2 m in length—1.2 m in the ground and 3 m above. The nearby Mangatawhiri Stockade (4.6) was a less formal work, sited on an older pā and consisting only of a rough stockade.

When fighting ended, stockades were common at the settlement frontier, where investment in construction was offset by savings in long-term manning levels. A rectangular stockade around two buildings (labelled 'blockhouses') was typical, with a small yard between the blockhouses, and bastions at two opposite corners. At the 31 × 15 m Hawera Stockade (10.2) (Fig. 7), the two blockhouses were loopholed to the yard as well as along external walls, with pits dug beneath the bastions to provide a second row of loopholes near ground level. Smaller stockades include



SKETCH OF HAWERA BLOCKHOUSE
ERECTED 1870



Origin of plans: J. Orchiston, Esq., M.I.E.E. Drawn, C. P., 1920

Figure 7. Hawera Stockade (10.2). From Cowan 1983 II: 486.

Mataitawa Blockhouse (9.38), with a stockade defence despite the name, at 15.5 × 14.9 m plus two 3 × 2 m bastions. Hawera and Mataitawa both served for several years as muster posts for local militia as the military frontier was transformed into a frontier of Pākehā settlement.

Armed Constabulary stockades in the late period were often larger than militia posts at the farming frontier and were sometimes irregular in plan. Runanga Stockade (6.3; Fig. 57) on the Napier-Taupo Road was c. 30 × 22 m, with triangular bastions jutting from the centre of three sides, and a slight projection next to the entry on the south side (Mitchell n.d.). Unlike the Hawera Stockade there were no buildings against the defences, allowing easy access to all of the stockade's interior walls. The fort was held by the Armed Constabulary from September 1869 to March 1876, and in 1871 was rebuilt from a simple initial two-bastion form.

Blockhouses were stand-alone defensive buildings designed for small numbers of men. The term originally referred to a detached building 'blocking' a strategic point or access. In New Zealand they were of one or two storeys and loopholed for defence. Two-storey works might be enclosed in earthworks or a stockade, of an area not much larger than the building itself.

The term 'blockhouse' can also refer to strong points at the corner of a stockade or redoubt, as at Queen's Redoubt (3.26), South Auckland, and Manaia Redoubt (10.6; Fig. 105), in South Taranaki. Barrack buildings that were inside or associated with a larger fortification such as Hawera Stockade were also called 'blockhouses'. The building inside Kaitake Redoubt (9.80; Fig. 95), Taranaki, was referred to as a 'blockhouse', but was not itself a defensive work.

An example of a single-storey work is Marangai Blockhouse (1.50) (Fig. 8), south of Whanganui. Notable groups of blockhouses date from winter 1860 in New Plymouth and Auckland in the same year, when the small early towns were ringed by blockhouses on elevated or otherwise strategic sites. Auckland had eight from Point Resolution to Freemans Bay by way of the Domain, the hospital grounds and Karangahape Road (3.2; Fig. 20), with three other blockhouses at Onehunga (3.6), Otahuhu (3.7) and Whau (3.9; from which Blockhouse Bay gets its name). All or nearly all were of brick construction. Only the cross-shaped Onehunga Blockhouse survives. At New Plymouth, nine timber blockhouses (9.2, 9.5-10, 9.17-18) looped around the town at the edge of high ground inland and at strategic places near the coast, as part of a defensive system which included also an inner entrenchment around the small urban centre (9.16; Fig. 70).



Figure 8. Marangai Blockhouse (1.50), Whanganui: example of single-storey fortification; restored in recent years, with added concrete base. Photo: N. Prickett, 2001.

Two-storey blockhouses may have followed a North American model where they were used in a similar role at the settlement frontier. In their first appearance in New Zealand, three were erected at Akaroa after the 1843 Wairau Incident. The English Blockhouse (13.1; Fig. 128) typically had an upper storey extending out from the lower. There were two rows of loopholes in the bottom storey and another row in the upper storey. A low stockade or fence surrounded the work. More than two decades later, the Orakau Blockhouse (4.70) was built to a similar arrangement, but without loopholes in the lower storey. Instead, the surrounding stockade was loopholed and the upper storey loopholed all round. The lower floor was c. 16 × 20 ft (5 × 6.5 m), with the upper extending out a further 3 ft (1 m). Puketotara Blockhouse (9.22) (Fig. 9) near New Plymouth is an example of a stand-alone two-storey work without additional defence.

1.4.5 Māori fortifications

Pā were much the most numerous and important Māori fortifications, with a variety of pā forms reflecting changing tactical and strategic objectives. The only other significant standalone Māori fortification was the rifle-pit, but these were more commonly part of pā complexes.

The major challenge to pā was artillery, so the most significant innovations in the New Zealand Wars were aimed at contending with this. But throughout the wars there were still pā without bunkers or other anti-artillery defence. This was especially so where Māori groups without artillery fought each other, such as in the 1850s Puketapu Feud in Taranaki and on the East Coast in 1865. Or they were older, unmodernised pā, or were otherwise not intended to play a part in the conflict which suddenly caught up with them. Hurirapa (9.29) (Fig. 10), at Waitara in Taranaki,



Figure 9. 'Puketotara Nov. 18' [1864]. Puketotara Blockhouse (9.22), near New Plymouth, is an example of a two-storey work. Colonel H.J. Warre, Sketchbook 1864-1865, p. 51, Ref: E-294-051, Alexander Turnbull Library, Wellington.

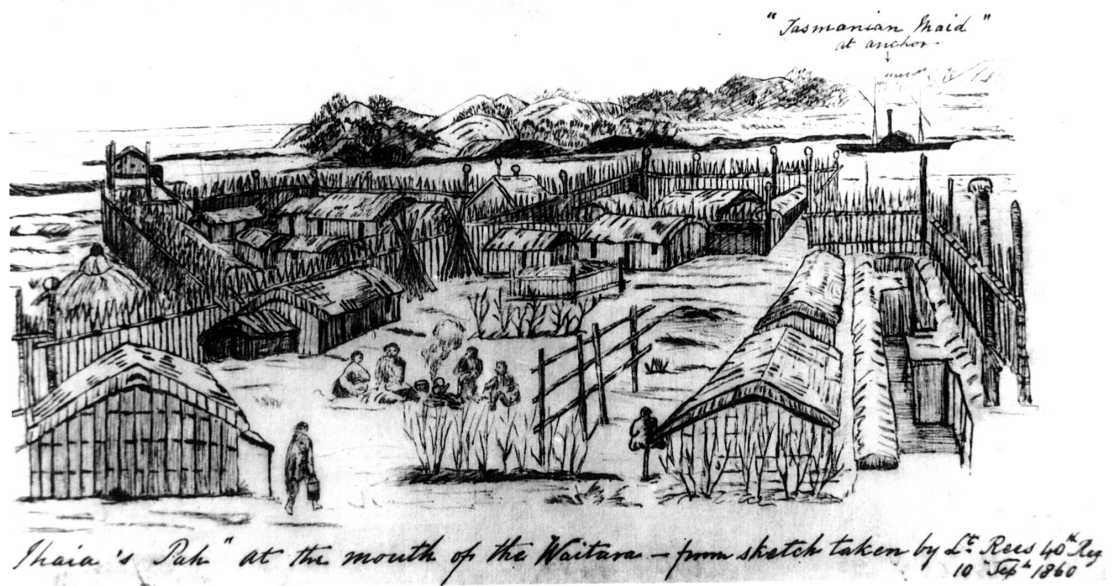


Figure 10. 'Ihaia's Pah at the mouth of the Waitara'. Hurirapa (9.29), Waitara, 1860, a gun-fighter pā with traversed rifle trench at right, but without artillery bunkers. William Fraser copy photograph of original sketch by Lieutenant J.V.H. Rees, collection of Puke Ariki, New Plymouth, PHO2009-012.

1860–61, was an older style of 'musket pā' with rifle trenches behind the stockade. As the home of Māori who were allied to Pākehā, there was no need for shelter from artillery.

Te Kahika (2.10; Fig. 18), Ohaeawai (2.3) (Fig. 11) and Ruapekapeka in the Bay of Islands, were the first pā to include significant anti-artillery innovations. Defenders sheltered in rectangular pits under huts at Ohaeawai and in deeper bell-shaped pits at Ruapekapeka. There were several defensive lines. The inner and strongest of three stockades was immediately behind a line of firing trenches and rifle-pits. Two outer stockades allowed defenders to push their guns through the inner stockade close to ground level and fire out beneath the outer stockade. A flax screen on the outer stockade absorbed enemy fire and hid damage to the main defences. This arrangement was widely used by later stockade pā.

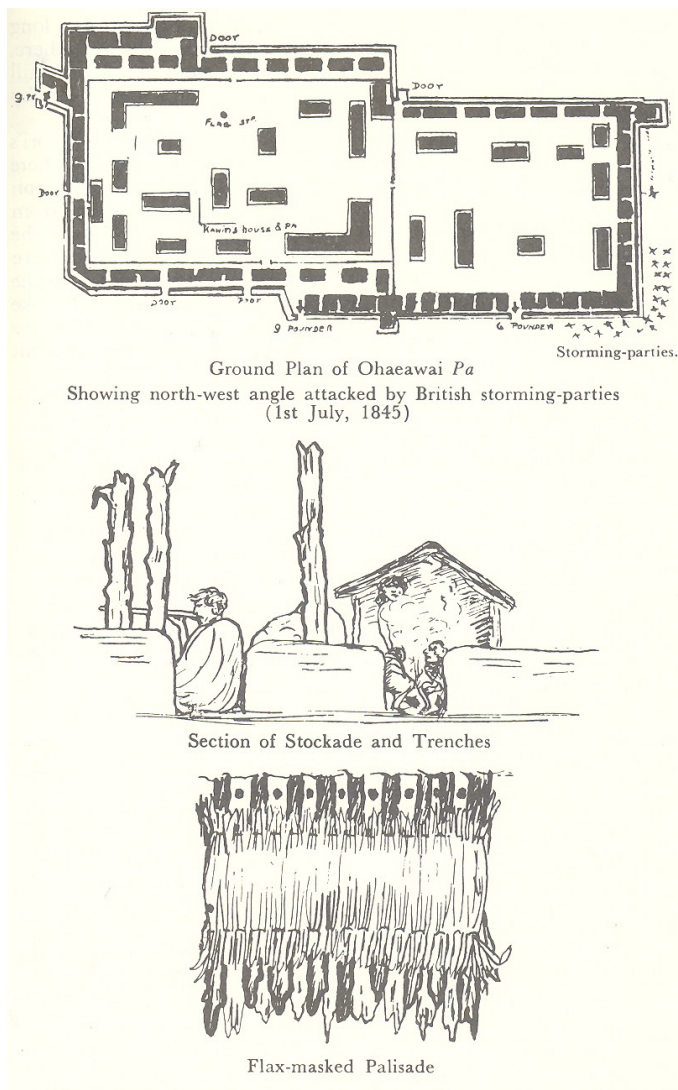


Figure 11. Ohaeawai (2.3), Bay of Islands, 1845, showing huts and bunkers within the pā, with the standard arrangement of two stockade lines in front of a traversed rifle trench and one behind. *From Cowan 1983 I: 53.*

Stockade pā had the disadvantage of requiring considerable resources and man-power to build. Despite this, in the year-long First Taranaki War Māori built more than 30 pā, most of which were not tested. Another disadvantage was that the stockades were an easy target for artillery. In early 1860, an innovative earthwork pā was constructed at Kaipopo (9.78), near New Plymouth, defended only by a light fence in front of bunkers and rifle trenches. Although taken in the Battle of Waireka, it was nonetheless the first of many. Notable later earthwork pā, that is, without a stockade, were Paterangi (4.33; Fig. 37) (Fig. 12) Rangiriri (4.14; Fig. 32) (Fig. 13) and Orakau (4.69; Fig. 42) in the Waikato, and Pukehinahina / Gate Pā (5.11; Fig. 48) (Fig. 14) at Tauranga. Te Kooti's Te Porere (6.15; Fig. 59), south of Lake Taupo (1869) was also an earthwork pā, although unusually followed the classic Pākehā two-bastion redoubt form.

Most pā were enclosed and defended on all sides, though some, such as Kaipopo (see above) and Porou (9.102) at Katikara, Taranaki, were defended only to the direction of an expected attack and were open at the rear. More significant is the distinction between enclosed and 'barrier' pā. Enclosed pā could have a tactical or a strategic purpose. Barrier pā were never other than strategic, being designed to halt the enemy advance. Barrier pā were important in the Waikato, notably at Rangiriri and Paterangi (see above), and required a considerable construction investment. Paterangi had c. 1 km of rifle trenches and six strong points, and was the longest continuous defensive earthwork of the wars. A small part of Rangiriri survives as one of the war's

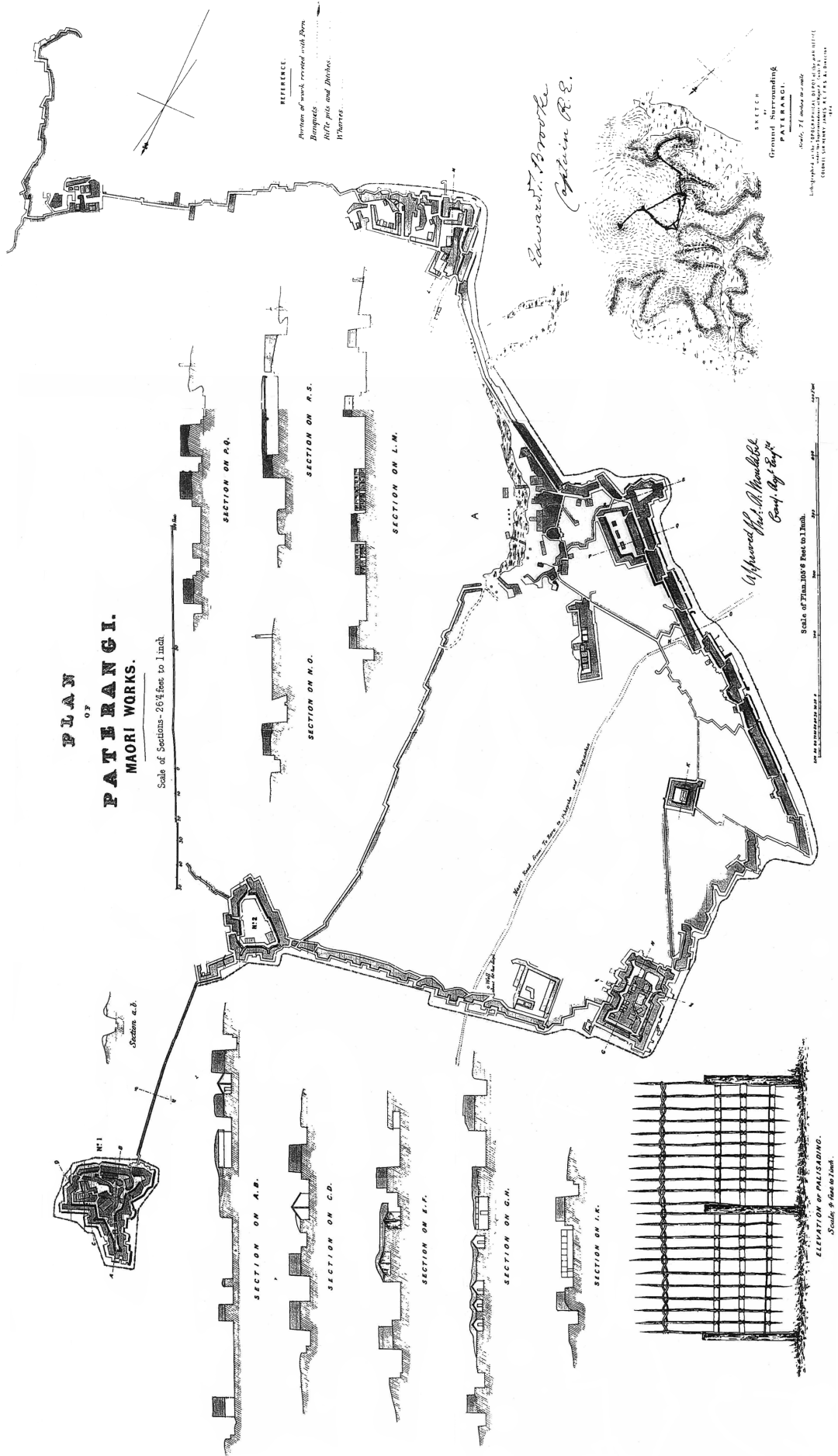


Figure 12. Paterangi (4.33), Waikato, the largest of all barrier pa. Plan by Captain E. T. Brooke, Royal Engineers, from War Office 0270 II: opp. p. 20.



Figure 13. Rangiriri (4.14), Waikato, 1863, a short section survives of the barrier pā which was scene of arguably the most important battle of the New Zealand Wars. *Photo: N. Prickett 1992.*



Figure 14. Pukehinahina/ Gate Pā (5.11), showing the slight fence and small pā interior, and traversed firing trench with access to underground bunkers. *Lieutenant H.G. Robley, 68th Regiment, watercolour, Auckland Museum PD48(47).*

most significant historic places (Fig. 13). Other barrier pā were Huirangi (9.27) and Te Arei (9.56) near Waitara, which took two and a half months to overcome by an extended sapping operation, and Te Ranga (5.16), near Tauranga, which was a barrier pā in the making when it was attacked.

Among the largest pā were Ruapekapeka (2.7; Fig. 17) at 110 × 80–40 m and Tauranga Ika (11.36; Fig. 119), north of Whanganui, at c. 140 × 140 m, both designed for large numbers of defenders. Tauranga-Ika was bigger than any Pākehā fieldwork. Small pā include Pukekakariki (9.103), at Kaihihi River, Taranaki (October 1860), which may have been 25 × 25 m. It was, however, not on its own, but one of three designed to act in concert, along with Orongomaihangai (9.101; Fig. 100) and Mataiaio (9.99). In the First Taranaki War, in nearby Tataraimaka district, five pā (9.107) were described as being arranged ‘en echelon’, i.e. one end of the line of pā was forward of the other. These were separate fortifications, but designed to act in concert as a barrier work.

Evolving defensive arrangements are seen in the three pā where Māori defeated the British Army. In 1845, Ohaeawai (2.3; Fig. 11) had a strong double stockade backed by a rifle trench similar to earlier musket pā, but with the addition of anti-artillery bunkers. In 1860, Onukukaitara (9.52; Figs 83, 85) and Puketakauere (9.54; Figs 83, 88) were designed to operate together. Onukukaitara had a light, part-single and part-double stockade, with innovative concealed rifle-pits forward of the main work, which surprised and turned back the 40th Regiment attack. In 1864, Pukehinahina / Gate Pā (5.11; Figs 14, 48) had only a light fence around a complex of bunkers and concealed firing positions.

New Zealand’s last pā were in the central North Island, near Waiouru, where the two ‘Waiiau’ pā (6.18–19), and Auahitotara (6.8) and ‘Donnelly’s Fort’ (6.9) date from inter-tribal land conflict c. 1880.

Many kāinga (villages) had stockades even if they were not strictly pā, and some ambiguity remains in defining these terms. Omaru-hakeke near Wairoa in Hawke’s Bay, is called a ‘stockaded settlement’ and a ‘pa’ by Cowan (1983 II: 128–129). Omarunui near Napier, was clearly a kāinga, but had several palisaded enclosures to provide firing positions and a measure of protection for the c. 100 mostly Ngāti Hineuru fighters inside (Cowan 1983 II: 136–142).

More work is needed to identify and locate pā and unfortified settlements of the New Zealand Wars.

Rifle-pits, otherwise ‘rifle trenches’ or ‘firing trenches’, were first developed as part of earlier inter-tribal ‘musket pā’. They were an essential part of pā in the New Zealand Wars, providing defenders with protected firing positions (Fig. 15). Rifle-pits were often covered by timber and earth to protect occupants from artillery and plunging small arms fire. Traverses part-way across rifle trenches prevented enfilading fire—firing down the length of a defended trench from a position at one end. Access from rear bunkers was by way of tunnels or trenches. In pā, rifle pits were located behind one or two stockades or earthworks. Stand-alone rifle-pits often had no forward defences, relying on quick access to rear gullies or bush as needed.

1.5 Data presentation

Each site entry contains five sections. Unattributed information is from the relevant New Zealand Archaeological Association site record.

1.5.1 Identifying data

Name: the commonly used name of the historic place (e.g. Omata Stockade). If no historical name is known, a name is given from the location, in italics and not fully capitalised (e.g. *Koheroa rifle-pits*).

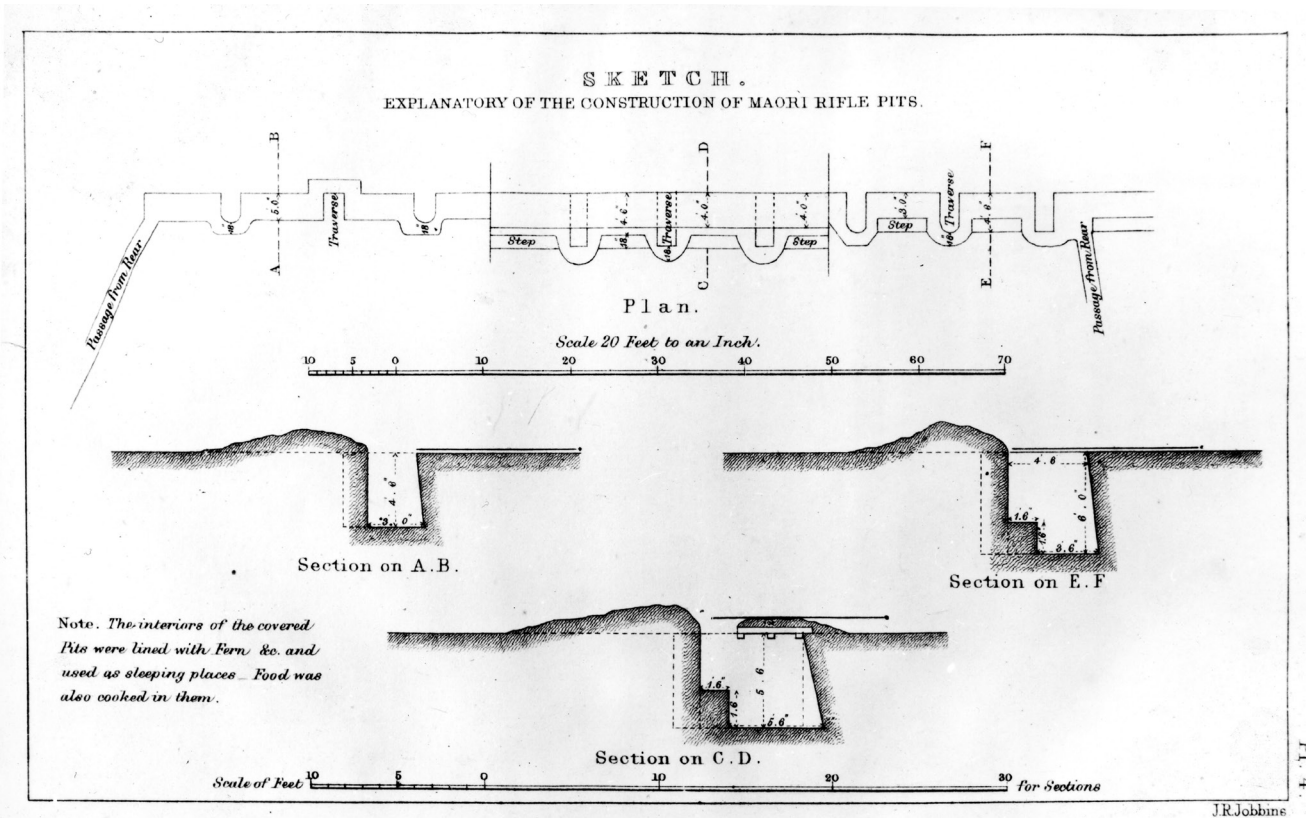


Figure 15. Plan and sections of Māori rifle-pits. From Pasley 1863: Pl. 4.

New Zealand Archaeological Association (NZAA) site record number: this number includes the NZMS 260 metric map sheet number, followed by a unique number assigned as required for particular site records on that map sheet (e.g. S13/112).

Where sites are given as having 'no site record', this refers only to the absence of a record in the NZAA site recording scheme and not as having no record elsewhere. Sites described as 'not located', again are not recorded in the NZAA site record file, or are located on the site record sites from historical information only, without an accurate location from field observation.

Metric map grid reference: seven-digit grid references are given for the 1:50,000 NZMS 260 map series. All site record grid references have been checked for this report.

Grid references are rounded to finish with '00' or '50', to avoid spurious accuracy of map references to a 1 m or 10 m location, which can be unhelpful for land managers charged with protecting historic sites. Map references are located as much as possible to the bottom left (southwest) corner of sites.

Map references to the 'NZTopo50' map series introduced in September 2009 are not used in this report.

Imperial site record numbers are provided where sites were first recorded using the old imperial inch-to-the-mile map series (e.g. N129/176). This is to assist in using early reports which refer to imperial site record numbers only, before introduction of the NZMS 260 series from the late 1970s.

Site record history: gives the year first recorded, and year(s) of updated record(s). Site records and updates are nearly always based on a field visit.

Other names of the site, if any.

Heritage New Zealand Pouhere Taonga: On 19 May 2014 the New Zealand Historic Places Trust (Pouhere Taonga) had a name change by Act of Parliament to 'Heritage New Zealand Pouhere Taonga'. 'Heritage New Zealand' is used throughout in this report, in place of 'New Zealand Historic Places Trust'.

1.5.2 Location and access

This section begins with the name of the district or suburb or township or larger urban area where the site is located, and is sometimes followed by the name of the wider district or town, or a nearby more widely known place-name, if this is thought useful.

There follows a more detailed location description in relation to points that can easily be described and identified in the field, such as road junctions, notable landmarks, trig stations, etc.

Information about access to the site is stated if useful, and where it is available from personal knowledge or from the NZAA site record.

Where they are known, names are given of previous Māori fortifications or other historic places at the site location.

1.5.3 History

A brief history of each site is given, depending on available information. A shared or similar history of more than one site may be given in each case, or reference is made to one record where historical information applies to a group of associated sites.

1.5.4 Fortification

Fortification descriptions are deliberately brief. Where possible, this includes the form of work (pā, rifle-pits, redoubt, stockade, blockhouse, etc.), size of the fortification, any unusual aspects of form or treatment of defences, something of interior arrangements and external living quarters, etc. Also noted are changes to the work, as in the case of Pākehā works that began in campaign mode for large numbers of men and were later remodelled for small garrisons at the frontier of confiscated land.

1.3.5 Site condition

Descriptions of site condition may include historical records and present condition as is available, mostly from NZAA site records.